

## APPENDIX II

Fish and Wildlife Coordination Act Report



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
6620 Southpoint Drive South  
Suite 310  
Jacksonville, Florida 32216-0912

JUN 08 1999

IN REPLY REFER TO:  
FWS/R4/ES-JAFL

Mr. George M. Strain  
Acting Chief, Planning Division  
US Army Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

ATTN: Mr. Bill Fonferek

Dear Mr. Strain:

In accordance with an FY 1998 funding agreement with the U.S. Army Corps of Engineers' Jacksonville District, the U.S. Fish and Wildlife Service is submitting the enclosed amended draft Fish and Wildlife Coordination Act Section 2(b) Report with reference to the Tampa Bay-Ybor Channel Turning Basin and the Tampa Harbor-Port Sutton Terminal Channel projects for your review. Included in the draft report is the required section 7 consultation pursuant to the Endangered Species Act. The figures referenced in the report have not been included in the draft, but will be in the final report.

We look forward to receiving your comments and finalizing the report. If you have a question about this report, please contact either Don Palmer at (904) 232-2580, ext. 115 or Bryan Pridgeon at (727) 570-5398, ext. 13.

Sincerely,

for David L. Hankla  
Field Supervisor

Enclosure

cc with enclosure:

PS-E

David Dale, NMFS, St. Petersburg  
Tom Olds, FWS, St. Petersburg  
M. Duncan/FDEP/BPSM  
J. Beever/GFC/Punta Gorda

**TAMPA HARBOR - YBOR CHANNEL TURNING BASIN AND THE TAMPA HARBOR -  
PORT SUTTON TERMINAL CHANNEL PROJECTS**

**U.S. Fish and Wildlife Service  
Fish and Wildlife Coordination Act Report**

**AMENDED DRAFT REPORT**

**Submitted to:  
Department of the Army  
U.S. Army Corps of Engineers  
Jacksonville District  
Planning Division, Environmental Branch  
Jacksonville, Florida**

**Submitted by:  
Department of the Interior  
U.S. Fish and Wildlife Service  
Ecological Services Field Office  
Jacksonville Florida  
June 1999**

## **FISH AND WILDLIFE COORDINATION ACT SECTION 2(b), REPORT**

### **INTRODUCTION**

The U.S. Fish and Wildlife Service (Service) has reviewed project plans and other information related to the Tampa Harbor - Ybor Channel Turning Basin and the Tampa Harbor - Port Sutton Terminal Channel projects. Both are previously authorized projects undergoing limited re-evaluation by the U.S. Army Corps of Engineers (Corps). The Corps is also investigating whether there is a federal interest in extending the Port Sutton Terminal Channel from the currently authorized length of 3,700 feet to 6,000 feet.

This draft report documents the fish and wildlife resources of the proposed project area, the anticipated effects of the project on those resources, and recommends potential mitigative measures. It has been prepared pursuant to a Fiscal-Year 1998 scope-of-work agreement between the Service and the Corps, and is provided in accordance with Section 2(b) of the Fish and Wildlife Coordination Act. Also incorporated in this report is the Service's biological opinion regarding the effects of the proposed project on federally listed species in the project area, pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

### **PROJECT DESCRIPTION**

Both projects are located in Hillsborough Bay, in northeast Tampa Bay (Figure 1). The Ybor Channel Turning Basin is the junction of three dredged channels; Sparkman, Garrison, and Ybor. The Port Sutton Channel connects to Cut C of the Tampa Harbor Channel about 2.5 miles southeast of the Ybor Channel Turning Basin.

Two of the channels that enter the Ybor Channel Turning Basin (Sparkman and Ybor) are currently authorized and periodically maintained. The Turning Basin is broadly triangular in shape and maintained at a depth of 34 feet. This project proposes to broaden the basin by dredging 200 feet of additional width on its southwest side, as authorized by the Rivers and Harbors Act of 1970. The Corps would dredge about 8 acres of bottom to 34 feet deep for the widening. They presently propose five sites for disposal of the dredged material; Hooker's Point, CMDA-2D (2D), CMDA-3D (3D), the Garrison Channel, and an open bay disposal site south of Davis Island. Four of the disposal sites are previously approved sites, three of which (Hooker's Point, 2D and 3D) receive material from multiple projects. The Hooker's Point site is at the southern end of the Hooker's Point peninsula that separates the Sparkman Channel from East Bay. Disposal areas 2D and 3D are large confined disposal cells in Hillsborough Bay adjacent to the Cut C segment of the Tampa Harbor channel. The Garrison Channel lies in a roughly northeast to southwest alignment between downtown Tampa and Harbour Island in Hillsborough Bay. Open bay disposal is proposed in a spoil disposal site that is about 0.3 miles south of Davis Island and 1.25 miles west of the Port Sutton Terminal Channel (27° 54' 06" N, 82° 26' 54" W).

Port Sutton is on the northeast side of Hillsborough Bay, about 2.5 miles southeast of the Ybor Channel Turning Basin. The Port Sutton Terminal Channel is currently about 4,000 feet long and 400 feet wide with authorized project dimensions of 3,700 feet long, 200 feet wide, and 43 feet deep down the centerline of the channel. The Corps has not constructed the deepening project of

the existing channel, and current mid-channel depths range from 26 to 38 feet. The Corps is investigating constructing the authorized project and also extending the channel up to a total of 6,000 feet. If a 3,700-foot-long project is constructed the channel bottom footprint would cover about 17 acres. A 6,000-foot-long project would cover about 27.5 acres. Dredged material is proposed for disposal in either 2D or 3D.

## STUDY AREA DESCRIPTION AND FISH AND WILDLIFE RESOURCES

The study area includes the proposed dredge sites and disposal sites in upper Hillsborough Bay in northeast Tampa Bay. It is roughly bounded by the City of Tampa on the north, disposal site 3D on the south, the community of Palm River on the east and Harbour Island and Davis Island on the west.

### Dredge Sites

The Ybor Channel Turning Basin and the Port Sutton Terminal Channel are among the series of channels dredged by the Corps and local port authorities to allow large vessels to navigate Tampa Bay. Port of Tampa bulk and general cargo facilities, cruise ship terminals, and ship repair and construction facilities are served by the two projects under consideration.

The de-authorized Garrison Channel enters the Ybor Channel Turning Basin from the west, the Sparkman Channel enters from the south, and the Ybor Channel enters from the north. Vertical bulkheads form the northern shoreline of the Garrison Channel. Its southern shoreline is the north shore of Harbour Island, a largely man-made island of multi- and single family residences. A cove rimmed by Brazilian pepper (*Schinus terebinthifolius*), riprap, and wooden bulkheads, and containing a dilapidated boathouse forms the south shoreline of the Garrison Channel adjacent to the turning basin. The Beneficial Road bridge crosses the channel immediately west of the cove. A permit has been issued for constructing a vertical bulkhead from the bridge westward for the length of the channel not presently bulkheaded. Piers for mooring recreational boats will be constructed from the bulkhead.

The 34-foot-deep Sparkman Channel connects the turning basin and Cut D of the Tampa Bay entrance channel. Its eastern shore is largely hardened and continuously lined with port facilities. Harbour Island forms its western shore. An underwater shelf extends from the shore of the island. The shelf's width varies, widening to the north, becoming about 250 feet wide where the channel joins the turning basin. The southern two-thirds of the Harbour Island shore adjacent to the channel is steep and vegetated predominantly by Brazilian pepper. The northern one-third is a mitigation site for development on the island. It was reshaped and planted with black mangrove (*Avicennia germinans*) and smooth cordgrass (*Spartina alterniflora*).

Both sides of the 400 to 500-foot-wide, 34-foot-deep Ybor Channel are hardened and lined continuously with commercial enterprises. The Florida Aquarium is the only non-marine industry facility on the channel.

The large channel which contains the Port Sutton Terminal Channel is a dead end channel 400 feet wide and approximately 6,000 feet long. Its entry lies between Hooker's Point to the north and Pendola Point to the south. Berths approximately 40 feet deep align the channel's north side and a short section of its south side. On the south side, the berths are located at the extreme ends of the channel with a broad shelf between them that extends into the channel, sloping gradually for a width of 60 to 80 feet before dropping into the terminal channel. No berthing facilities are developed adjacent to the shelf.

Hillsborough Bay is considered the most impacted segment of Tampa Bay as manifested by water quality (Lewis and Estevez 1988, Squires and Cardinale 1996) and altered tidal flow and prism (Goodwin 1987). Squires and Cardinale (1996) reviewed data on salinity, Secchi disk depth, turbidity, dissolved oxygen concentration, total phosphorus, total nitrogen, and chlorophyll-*a* concentrations as water quality indicators. Secchi disk depth and turbidity are two measures of water clarity, which is important for determining the depth of photosynthesis and allowing visually oriented organisms to find food and shelter. Dissolved oxygen is necessary for the vast majority of organisms to live and its concentration is one of the most important factors controlling the distribution of aquatic organisms; concentrations below four parts per million (ppm) are marginal for supporting aquatic life. Phosphorus and nitrogen are nutrients necessary for the survival and growth of aquatic plants, with their availability and relative concentrations affecting the types and quantities of plants in aquatic systems. Chlorophyll-*a* concentration is an indicator of phytoplankton productivity and serves as an indicator of nutrient loads and fluxes. Figures 2 - 4 show the results of the Squires and Cardinale review. Hillsborough Bay typically had shallower Secchi disk depths, lower dissolved oxygen concentrations, and greater turbidity, total phosphorus, total nitrogen, and chlorophyll-*a* concentrations than other segments of the bay, leading to their conclusion that Hillsborough Bay was the most impacted segment of the bay.

Upper Hillsborough Bay and the Ybor Channel were identified as among the most contaminated segments of Tampa Bay by Frithsen *et al.* (1995) in their synoptic report of Tampa Bay environmental contaminants. Concentrations of cadmium, lead and zinc that exceeded the state's Probable Effects Level were reported from individual samples in Hillsborough Bay. McConnell and Brink (1997) examined the sources of the contaminants of concern identified in Frithsen *et al.* (*Op. Cit.*) in the upper Hillsborough Bay watershed and identified the Ybor Channel as a priority sub-basin for point sources of copper and nickel and non-point sources of metals loading. Polynuclear aromatic hydrocarbons (PAH) were also identified in the Ybor Channel from both permitted stormwater outfalls and stormwater runoff. Long *et al.* (1995) examined sediment toxicity in Tampa Bay and reported it was most evident in upper Hillsborough Bay, including the Ybor Channel, East Bay and adjacent waterways of the harbor. It is evident that the area around the Port of Tampa, including the dredged channels, has a history of environmental contamination, is subject to continued contaminant loading, and tests have shown the contaminants may have a toxic effect on aquatic organisms.

Hillsborough Bay is heavily industrialized, channelized, has a higher sediment silt content, is considered more polluted, and has lower water quality than other segments of Tampa Bay (Lewis and Estevez 1988, Coastal Environmental 1994, Carr *et al.* 1996, Karlen 1996), all of which contribute to its limited diversity of benthic habitats and organisms. Benthic organisms are those that live in or in contact with aquatic substrates and their distribution and abundance are largely determined by water quality and sediment composition (Lewis and Estevez 1988). Information detailed in their synoptic report relates that Hillsborough Bay is one of the few segments of Tampa Bay not supporting a great diversity and abundance of benthic organisms. Karlen (1996) also reported that the fewest species of benthos (200 species, range 200 - 368), and the lowest diversity value (2.33, range 2.33 - 3.47) from benthic samples taken in Tampa Bay in September 1993 came from Hillsborough Bay.

American oysters (*Crassostrea virginica*) are one of the most visible and well studied species of estuarine benthic organisms. They have not been extensively studied in Tampa Bay, although their commercial harvest in Tampa Bay was second only to the harvest from Apalachicola Bay through the 19<sup>th</sup> century (Lewis and Estevez 1988). The Tampa Bay industry was gone by 1970. Oyster beds are important components of estuarine systems not only for their commercial value but also their functional value. Oysters filter and clean the water passing across them and build reefs that provide habitat for many other organisms. Bahr and Lanier (1981) reported that up to 50m<sup>2</sup> of shell surface was available for epifauna for each square meter of oyster reef surface and found 42 species of invertebrates associated with the reef. Although they reported on a reef community in Georgia, most of the species noted are also present in Tampa Bay and it is reasonable to expect that they are associated with Tampa Bay oyster reefs also. Several oyster beds are known to exist on the shelf proposed for dredging to expand the Ybor Channel Turning Basin. A survey conducted by the Corps (unpublished) confirmed the location and area of eight oyster beds on the shelf, seven of which will be removed by the dredging project. The total area of the beds is just over 1,120 square feet, with the largest covering about 706 square feet.

Estuaries are known for the diversity of fish that reside in them. Some species remain in the bays for their entire life cycle, while others spend only specific stages in the estuary. Either life history type demonstrates the necessity of estuarine conditions for the existence of the species. Over 200 species of fish have been collected from Tampa Bay and adjacent beaches (Comp 1985). Of those, about 125 species can be considered to commonly inhabit the bay. Table 1 lists some fish species that may be found at the project sites.

Despite the lack of any natural habitat adjacent to the dredge sites, birds use the area for foraging and loafing. Birds observed by a Fish and Wildlife Service biologist on August 5, 1998 include; brown pelican (*Pelecanus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), black-crowned night-heron (*Nycticorax nycticorax*), little blue heron (*Egretta caerulea*), great egret (*Casmerodius albus*), great blue heron (*Ardea herodias*), American oystercatcher (*Haematopus palliatus*), spotted sandpiper (*Actitis macularia*), laughing gull (*Larus atricilla*), ring-billed gull (*Larus delawarensis*), Forster's tern (*Sterna forsteri*), and osprey (*Pandion haliaetus*).



### Disposal Sites

Disposal sites 2D and 3D are confined disposal sites belonging to the Tampa Port Authority that encompass about 1,100 acres. They lie to the east of the Tampa Harbor channel about 1.25 and 4.5 miles, respectively, south of the Port Sutton entry. Both sites are manmade islands, rimmed with containment dikes that have discharge weirs in place. Disposal island 2D is the larger of the two at about 650 acres, with 3D being about 450 acres.

The Hooker's Point disposal site is a Tampa Port Authority open water disposal site at the southern end of Hooker's Point that is being filled under a permit that expires in 1999. When filled it will create an upland site for the port.

Bird use of the dredge sites and the above-mentioned disposal sites is very different. The dredge sites are in highly industrialized locations, with little shallow shoreline and minimal non-industrialized habitat. Although the dredged disposal sites are manmade islands they are isolated from most mainland disturbances, such as traffic, mammalian predation and human disturbance. They also offer sandy unvegetated and grassy locations preferred as nesting sites for many colonial nesting waterbirds. In the "State of Tampa Bay 1994" (Tampa Bay Regional Planning Council 1995) the National Audubon Society reported that over 6,200 pairs of breeding waterbirds were present on the two disposal islands in 1994.

The Garrison Channel was deauthorized as a Federal channel after the Harbor Boulevard and Beneficial Boulevard bridges were constructed to connect Harbour Island with the mainland. Seawalls line the full length of its northern shoreline. They line about one half of its southern shoreline, with construction underway to complete the lining of the southern shore. With no maintenance, the channel has silted in to about 20 feet deep toward its east end, 10 feet shallower than its previous authorized depth. Channel depth increases toward the west with a maximum depth of about 27 feet (tide approximately +1.5 feet) near the Harbor Boulevard Bridge. The Corps is proposing to use the channel for the disposal of dredged material; although they would continue a commitment to dredge the channel if it fills to a depth of less than 10 feet.

About 146 acres are included in the footprint of the open bay disposal site south of Davis Island. It is situated on a large flat that ends at the 43-foot-deep Cut-C and Cut-D Channels to its east. The flat ranges from about 9 to 14 feet deep and is considered to consist of fine sediments (Coastal Environmental, Inc. 1994). Navigation chart 11413 (Tampa Bay, Northern Part) shows an island within the proposed disposal site. It has eroded and is no longer emergent. The minimum depth over the site was 3.5 feet on May 21, 1999 when the tide elevation was about +1.5 feet.

### DISCUSSION OF PROJECT-RELATED ENVIRONMENTAL EFFECTS AND MITIGATIVE MEASURES

Both of the projects addressed in this report are located in Hillsborough Bay, the most industrialized, channelized and polluted segment of Tampa Bay. Although fish and wildlife

resources associated with the proposed dredging sites are limited when compared to those of most areas in Tampa Bay efforts should be made to eliminate or minimize impacts to them.

The removal of benthic communities, long term changes to water quality resulting from changing relatively shallow habitats to deep water habitats, and the requirement for periodic maintenance dredging will be unavoidable impacts of the dredging projects. Sediment composition and dissolved oxygen concentrations, both of which will be permanently changed by the projects, largely determine benthic community structure and function. One would expect their change to lead to a different benthic community than that presently existing. The community that does establish will be subject to regular removal from maintenance dredging projects.

The most obvious change to the benthic community will be the oyster beds lost to widening the Ybor Channel Turning Basin. They should be relocated to suitable locations rather than dredged and disposed.

The immediate loss of the benthic community in the dredging footprint and the lost community functions during recovery could be mitigated through oyster bed creation. The combined footprint of the two dredging projects is about 25 acres if the Corps dredges a 3,700-foot-long Port Sutton Terminal Channel and about 35 acres if the Terminal Channel is 6,000 feet long. Using Bahr and Lanier's (1981) information that oyster reefs provide 50 times the surface area that bare bottoms do, oyster bed creation of 0.5 to 0.7 acres would mitigate the impacts of the dredging at a 1:1 ratio. Upper Hillsborough Bay near the Delaney Creek Pop-off or adjacent to disposal sites 2D or 3D could be appropriate locations for creating oyster beds.

No quantifiable adverse effects are expected to fishery species from direct contact with the dredge. However, there is the potential for the resuspension of environmental contaminants that can have negative effects on both mobile and sessile aquatic organisms, as evidenced by Long *et al.* (1995). Results of an elutriate study performed for the Corps, reported in the "Environmental Impact Statement, Port Sutton Channel, Hillsborough County, Florida" (U.S. Army Corps of Engineers 1986) showed no chemicals of concern would exceed State standards. However, elutriate tests are designed to predict the level of contaminants that would be expected in the water leaving the disposal site, and do not accurately predict the level of contaminants resuspended in the water column at the dredging site. No bulk chemistry, bioassay or bioaccumulation tests were reported. Given the time since those samples were collected for analysis (May 11, 1985) and the results reported by Long *et al.* (1995), bulk chemical analyses, bioassay and bioaccumulation tests should be performed on sediments from the proposed dredging sites. If evidence of environmental contamination is found efforts must be made to prevent their spread from the dredge site and they must be disposed of appropriately.

Dredged material disposal is projected for Hooker's Point or disposal islands 2D or 3D. Hooker's Point offers poor fish and wildlife habitat. It is regularly disturbed by crews distributing newly received fill material and is in an industrial setting where domestic cats and dogs are expected. No negative impacts beyond those already mitigated are anticipated from placing fill at Hooker's Point if the materials are contained within the permitted site.

The two disposal islands (2D and 3D) are noted as nesting sites for colonial waterbirds. The Corps recognized this in their environmental assessment for maintenance dredging of the Tampa Harbor and Hillsborough Bay Channels (U.S. Army Corps of Engineers 1989), and committed to conducting maintenance dredging between September 1 and May 1 to avoid adverse impacts to nesting birds on the two disposal islands. The Corps later published the "Final Migratory Bird Protection Policy" (Policy) (U.S. Army Corps of Engineers 1994) that recognized April 1 as the beginning of the nesting season in Florida, but also allowed more flexibility for completing projects that stretched into the nesting season. The policy should be implemented for this project, recognizing that the policy's first priority, avoidance of work in the nesting season, is also the Service's preferred method for protecting nesting birds on the islands.

Hillsborough Bay's average depth has increased, flushing rates have decreased and circulation has been modified from pre-development conditions (Goodwin 1987). Both the Garrison Channel and the open bay disposal site would cause additional changes that should be evaluated with regard to water quality parameters that affect biological resources, particularly dissolved oxygen.

The Garrison Channel is a dredged channel with hardened vertical shorelines connecting two other similar channels. Circulation is limited by the channel's location in the upper reaches of Tampa Bay where tidal influence is attenuated by distance from the mouth of the bay (Goodwin 1987), by its alignment and by its narrow configuration which limit wind driven circulation. Given the physical constraints on circulation and the inverse relationship between dissolved oxygen concentration and water depth in Hillsborough Bay, bottom water quality is likely to be stressful for biota in the Garrison Channel.

Adding dredged material to raise the bottom elevation could improve water quality in the channel. However, it may do so at the expense of further reducing circulation between the Hillsborough River and Seddon Channel and the Ybor Turning Basin. The Garrison Channel's depth of 20 feet is 5-6 feet shallower than the Seddon Channel and 18-19 feet shallower than the Ybor Turning Basin, so it may already act as a sill, restricting circulation between the two channels. Raising its bottom elevation even more will increase the effects presently experienced. The potential results on water quality of reducing circulation through the dredged channels should be examined before the bottom elevation of the Garrison Channel is raised. A cursory analysis of this disposal option was included in the "Environmental Impact Statement, Port Sutton Channel, Hillsborough County, Florida (U.S. Army Corps of Engineers 1986).

Open bay disposal of dredged material has been one of the leading causes of habitat loss in Tampa Bay. Since the early 1900's an estimated 13,161 acres have been filled for transportation corridors, commercial and residential developments and as disposal sites for small dredge projects, with the overwhelming majority (about 12,000 acres) occurring in shallow waters that previously supported seagrass meadows (Coastal Environmental, Inc. 1994). Most of the area directly impacted by commercial navigation projects (about 14,380 acres) has been in deep water, and not resulting in the direct loss of seagrass habitats. Overall dredge and fill activities have changed the structure of over 27,541 acres (about 43 square miles) of the Tampa Bay system. The disposal site proposed for use south of Davis Island is an existing disposal site and its area is included in the referenced figures.

Open bay disposal of dredged material has an immediate and direct impact on benthic organisms, water quality and circulation patterns. There is a short term loss of benthic productivity when dredged material is disposed on an open bay bottom. The rate of recolonization and post project community structure depend largely on the existing community structure and on the thickness and type of spoil disposed (Stickney 1984). If the sediment type is not changed, the post project benthic community will likely approximate the existing community. The rate of recovery will depend on the project location and sediment type. Water quality impacts can be both short- and long-term in estuaries. Short-term impacts vary among locations with the sediment type determining the degree of the impact. Organic, fine-grained sediments cause a greater increase in biochemical oxygen demand than mineral sediments. Long-term water quality changes result from changes in bottom depth and changes in circulation patterns.

Beneficial use projects for the dredged materials should be sought if there are no sediment contaminants issues. The Palm River and two dredged holes near Whiskey Stump and Green Keys are potential beneficial use project sites. HDR Engineering (1994) recommended decreasing the Palm River's depth and removing high spots that are accreting to improve circulation and dissolved oxygen concentrations near the bottom. There is a hole upstream of the Highway 41 bridge that is about 21 feet deep with a 12-foot-deep sill beneath the bridge. Filling or partially filling the hole to at least match the upstream bottom depth would begin addressing the widely recognized problem of aquatic habitat degradation in the Palm River.

Filling part or all of the dredged holes near Whiskey Stump and Green Keys are potential beneficial use projects that would require additional study of their importance to local and estuary-wide aquatic resources before the projects could occur. Although the holes are dredged holes and offer markedly different habitats than those present before they were dug, there is anecdotal evidence of their fisheries productivity and function as cold weather refugia. Filling the holes would address the priority objective of the "The Comprehensive Conservation and Management Plan for Tampa Bay" (Tampa Bay National Estuary Program 1996) to restore seagrass beds. However, that objective should be achieved at sites with habitats less productive and diverse than that of the seagrass beds that will replace them. It is uncertain whether the dredged holes would meet this criteria.

## SUMMARY OF FISH AND WILDLIFE COORDINATION ACT COMMENTS

The Ybor Channel Turning Basin and Port Sutton Terminal Channel projects are situated in the most industrialized, modified segment of Tampa Bay and are adjacent to existing dredged deep water channels. In spite of the altered, stressful environmental conditions of the project sites there are fish and wildlife resources that require consideration. In order to minimize project-related adverse impacts to fish and wildlife resources the Service provides the following recommendations:

- o avoid dredging-related impacts to the existing mitigation site on northeast side of Harbour Island;

- o salvage existing oyster beds on the shelf extending from Harbour Island for relocation;
- o conduct bulk chemical analyses, bioassay and bioaccumulation tests with sediments from dredge sites;
- o if contaminants are found in dredge site sediments, take measures to prevent their dispersal during dredging and spoil disposal operations;
- o monitor pipelines to prevent accidental spills;
- o create 0.5 to 0.7 acres of oyster bed to mitigate the dredging of 25 to 35 acres of relatively shallow bay bottom;
- o implement the "Final Migratory Bird Protection Policy" to protect nesting birds on 2D and 3D;
- o evaluate changes to hydrology and water quality from Garrison Channel and open bay disposal options; and,
- o seek beneficial use projects, such as described above, for use of dredged material.

## **ENDANGERED SPECIES ACT SECTION 7 CONSULTATION**

### **CONSULTATION HISTORY**

The Corps requested a Coordination Act Report and formal section 7 consultation from the Service. A scope of work was received on May 11, 1998, and formal consultation was initiated on that date. This biological opinion is based on information provided in the May 8, 1998 public notice, field inspections, Service data, and other sources of information. A complete administrative record of this consultation is on file at the Service's Jacksonville Field Office.

### **BIOLOGICAL OPINION**

#### **Description of Proposed Action**

The applicant proposes to widen and deepen the existing Ybor turning basin and Port Sutton Navigation Channel at Tampa Harbor, Tampa, Hillsborough County, Florida. The existing turning basin is maintained to a depth of 34 feet. The authorized project will widen the basin an additional 200 feet on the southwest side. The existing Port Sutton channel is also maintained to a depth of 34 feet. Design parameters are for depths of minus 43 feet, and a width of 200 feet. Additional extension of the Pt. Sutton channel to a length of 6,000 feet long is also under consideration.

The purpose of the project is to improve vessel maneuvering and access capabilities in the immediate area. Dredged material placement areas under consideration for use include Hooker's Point, CMDA-2D, and CMDA-3D, the Garrison Channel and open bay disposal south of Davis Island. A hydraulic dredge is proposed to be used; however, difficulty in transporting slurry material to the Hooker's Point disposal area is anticipated, and may require use of a clamshell dredge in areas.

### Status of the Species

The Federal government has recognized the threats to the continued existence of the manatee for almost 30 years. The West Indian manatee was first listed as an endangered species in 1967 under the Endangered Species Preservation Act of 1966 (16 U.S.C. 668aa(c)) (32 FR 48:4001). The Endangered Species Conservation Act of 1969 (16 U.S.C. 668aa(c)) continued to recognize the West Indian manatee as endangered (35 FR 16047). The West Indian manatee was listed as an endangered species pursuant to the Endangered Species Act in 1973, as amended. Critical habitat was designated for the manatee in 1976.

The Florida manatee is a native marine mammal that is mostly restricted to coastal waters of Florida and Georgia. Manatees are commonly found in bays, inlets, and rivers occurring in fresh, brackish, and salt water environments. They are herbivorous and prefer to feed on submerged aquatic vegetation (SAV). Manatees are attracted to freshwater and commonly seen drinking from hoses at marinas and other freshwater discharges.

The only year-round populations of manatees in the United States occur throughout the coastal and inland waterways of peninsular Florida and a small group that overwinters in extreme southeast Georgia. Based on information from the Florida Department of Environmental Protection's Florida Marine Research Institute (FMRI) synoptic aerial survey program, biologists believe that there are at least 2,600 manatees in Florida's coastal waters. Based on this and other sources of information, it has been suggested that the manatee population was slowly increasing throughout its range. Eberhardt and O'Shea (1995) calculated an annual population growth rate of 7 percent at Crystal River, Citrus County, Florida. Garrott et al.'s (1994) analysis of trends at winter aggregation sites suggest a mean annual increase of 7-12 percent in adjusted counts at sites on the east coast from 1978 - 1992. Because of the epizootic and record mortalities attributable to other causes, manatees suffered a serious setback in 1996. It will take a number of years for the population to return to pre-epizootic levels (Ackerman 1997).

Recovery goals for the Florida manatee include restoring the population to optimum sustainable levels and to maintain them at those levels. Levels can be achieved by controlling mortality factors and by making sure critical habitats are secure and threats are controlled or decreased (USFWS 1995).

## Environmental Baseline

### Action Area

Because there are two project sites, each will be addressed separately in this biological opinion. The action area for both sites is defined as the immediate areas of dredging for the Ybor basin and Port Sutton.

### Status of Species in Action Area

The Florida Marine Research Institute (FMRI 1998) documents manatees in Tampa Harbor (Ybor basin area) and Port Sutton Channel year round. In the Ybor basin vicinity, the majority of animals use the channels as travel routes to the Hillsborough River to access forage and fresh water. In Ybor basin exclusively, our information indicates little manatee use, those being primarily traveling manatees.

The other project site is at Port Sutton, approximately 2 miles south of Ybor basin, where a power plant discharge point provides warm water refugia to a small number (2 -17) of manatees in the winter months. Information from the FMRI indicates the number of animals using the discharge area has slightly increased over the years, but consistently averages 2 animals present for every winter aerial survey taken December through February. A maximum of eight animals have been observed at one time in the canal, with a maximum of seventeen for a winter survey period (M. Duncan pers. comm. 1998). Additional manatee activity appears to be concentrated at the entrance to Port Sutton (west of the canal), with a few sightings east of the canal. Because the power plant operates only intermittently (on days of high electrical demand in colder months), its discharge is not a dependable refuge to manatees.

Manatee mortality records from 1974-1997 indicate seven deaths have occurred in the Ybor basin/Port Sutton area. Two have occurred in the vicinity of Ybor basin, one due to watercraft, and one undetermined. Five have occurred in the Port Sutton Channel, all during December, January, and March. Causes are documented as two by watercraft, one perinatal, one from natural cold, and one undetermined.

### Effects of the Proposed Action

Causes of manatee mortality include collision with large and small boats, crushing by barges and man-made water control structures and navigation locks, entanglement in nets and lines, entrapment in culverts, poaching, and entanglement in and ingestion of marine debris (e.g., monofilament). A review of manatee mortality from 1974 to the present clearly indicates that watercraft collisions with manatees are a major factor affecting manatee populations in Florida. During this period, watercraft-related mortalities have accounted for 25 percent of all known manatee deaths. An analysis of watercraft related mortalities indicates that small to medium-sized boats are responsible for the majority of all deaths. The number of these implicated mortalities is increasing through time (Wright *et al.* 1995).

Watercraft related mortalities are the result of three types of trauma. These include collisions (or impact), in which a manatee is struck by the hull of a fast-moving boat, a combination of collision and propeller injuries in which a manatee is struck by the hull and is cut by the propeller of a watercraft, and trauma associated solely with propellers.

Our concern involves the safety of manatees while in the power plant channel, and while traversing the main channel of Port Sutton. The numerous barges, tugs, and support boats associated with clamshell dredging operations increase the risk of watercraft related injury to manatees in the action area. The exercise of appropriate caution on the part of personnel operating these vessels is essential to reduce the threat of collisions with manatees.

There is also some possibility that the actual clamshell head could injure a manatee while in use. Although the standard manatee precautions require all operations to cease when a manatee is observed within 50 feet of the dredge site, impact potential remains due to reduced visibility (turbidity), and the increased number of manatees in the area. The use of a hydraulic dredge may be preferable as they operate without a bucket and generally cause less turbidity, thereby improving visibility and the observation abilities of the manatee observer. However, it is our view that the potential for striking a manatee with the dredge bucket is remote.

#### Cumulative Effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Act.

The cumulative effect of actions that will increase the likelihood of manatees being struck by boats include those actions that will increase the number of power boats operating within the action area. We are unaware of any other proposed private or state projects in the immediate vicinity.

#### CONCLUSION

After reviewing the current status of the Florida manatee, the environmental baseline for the action area, the effects of the proposed maintenance dredge, and the cumulative effects, it is the Service's biological opinion that the proposed projects at the Ybor basin and the Port Sutton Channel are not likely to jeopardize the continued existence of the Florida manatee, or result in the adverse modification of designated critical habitat.

#### INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or to attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" and "harass" are further defined in



Service regulations (50 CFR 17.3). "Harm" is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. "Harass" is defined as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of Section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The Service does not anticipate that the proposed action will incidentally take any manatees. In the accompanying biological opinion, the Service determined that this action is not likely to result in jeopardy to the species. If death or injury to a manatee occurs, the event must stop and the incident must be reported immediately to the Florida Marine Patrol at 1-800-DIAL-FMP and to the Service at (904) 232-2580. In the St.Petersburg area, the Florida Marine Patrol may be contacted directly for assistance at (813) 272-2516.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purpose of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation measures.

To minimize potential impacts to the manatee, the Service makes the following recommendations:

- o The standard manatee conditions be implemented at both project sites.
- o A hydraulic dredge be used for all dredging in the Port Sutton Channel based on the presence of manatees at the discharge canal during winter months.
- o If a clamshell dredge is used, a no-dredge window from January 1-February 1 be implemented at the Port Sutton site and surrounding channel waters to adequately protect wintering manatees.
- o If a clamshell dredge is used, no night dredging should occur in the Port Sutton channel from November 15-March 1 due to decreased visibility and observation capabilities. Tasks requiring small watercraft or barge movement should be conducted during daylight hours only, or such vessels should be outfitted with propeller guards.

- o If a clamshell dredge is used, a designated observer should be used in areas around the discharge canal.

## REINITIATION OF SECTION 7 CONSULTATION

This concludes formal consultation on the actions outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required when discretionary Federal agency involvement or control over the action has been retained and if: (1) new information reveals effects of the agency action that may effect listed species or critical habitat in a manner or to an extent not considered in this biological opinion, (2) the Corps' action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this biological opinion, or (3) a new species is listed or critical habitat designated that may be effected by the action. Please call Bryan Pridgeon at (727) 570-5398 should you require additional assistance.

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